credits with other marine engine manufacturers through trading.

(b) In-use credits for trading can be obtained from credits banked for model years prior to the model year of the engine family requiring in-use credits.

(c) Traded in-use credits can be used for averaging, banking, or further trading transactions.

(d) Unless otherwise approved by EPA, a manufacturer that generates positive in-use credits must wait 30 days after it has both completed in-use testing for the model year for which the credits were generated and submitted the report required by §91.1309(a) before it may transfer credits to another manufacturer or broker.

(e) In the event of a negative credit balance resulting from a transaction, both the buyer and the seller are liable, except in cases involving fraud. Engine families participating in a negative trade may be subject to recall under subpart I of this part.

§91.1307 Credit calculation.

For each participating engine family, emission credits (positive or negative) are to be calculated according to the following equation and rounded, in accordance with ASTM E29–93a, to the nearest gram. ASTM E29–93a has been incorporated by reference. See §91.6. Consistent units are to be used throughout the equation. The following equation is used to determine the credit status for an engine family whether generating positive or negative in-use emission credits:

$$\sum_{t=1}^{\text{max useful life}} \frac{S(t)\times \text{sales}\times(\text{FEL}-\text{CL})\times \text{Power}\times \text{AF}\times 0.207\times \mu_{\text{use}}}{1.03^{t}}$$

Where:

S(t)=cumulative fraction survived at time t;

μ_{life}=average useful life in years, specific to the power rating and the application as given below.

Engine type	(μ_{life})
Outboard	$41.27\times\left(\frac{\text{Power}}{0.746}\right)^{-0.204}$
Personal Watercraft	10

Power = the average power of an engine family in kW (sales weighted). The power of each configuration is the rated output in kilowatts as determined by SAE J1228. This procedure has been incorporated by reference. See §91.6.

t = time in model years

max useful life = maximum useful life specific to the power rating and the application; max useful life = $2\mu_{life}$

sales = the number of eligible sales tracked to the point of first retail sale in the U.S. for the given engine family during the model year.

FEL = the family emission limit for the engine family in grams per kilowatt hour.

CL = compliance level of the in-use testing in g/kW–hr.

μ_{use} = mean use in hours per year. For outboard engines, μ_{use}=34.8 hrs /yr. For personal watercraft, μ_{use}=77.3 hrs/yr;

AF = adjustment factor for the number of tests conducted

No. eng. tested	2*, 4	6	8	10
Adjustment factor	.5	.75	.9	1

*Small volume manufacturer

§91.1308 Maintenance of records.

(a) Any manufacturer that is participating in the in-use credit program set forth in this subpart shall establish, maintain, and retain the records required by §91.209 with respect to its participation in the in-use credit program.

(b) EPA may void *ab initio* a certificate of conformity for an engine family for which the manufacturer fails to retain the records required under this section or to provide such information to the Administrator upon request.

§91.1309 Reporting requirements.

(a) Any manufacturer who participates in the in-use credit program is required to submit an end of the model year in-use testing report either within